**Diffusion Animation**

<http://lessons.harveyproject.org/development/general/diffusion/diffnomemb/diffnomemb.html>

**Question 1.** What TWO things do you notice about the movement of the particles?

**Diffusion thru Membrane** – Click on “ **Diffusion** ”, then “ **Diffusion with Arrows** ”

[http://www.indiana.edu/~phys215/lecture/lecnotes/diff.html](http://www.indiana.edu/%7Ephys215/lecture/lecnotes/diff.html)

**Question 2.** At the beginning of the animation, How many particles are on each side of the membrane?

**Question 3.** Are the particles moving in only one direction, or are they moving in both directions?

**Question 4** . Watch the animation for 2 minutes, or until it reads “NO NET FLOW”. Now how many particles are on each side of the membrane?

**Question 5** . What is meant by the website author when he states “”diffusion goes from the higher concentration side to the lower concentration side”?

**Osmosis Animation** – Answer the questions found on the webpage, also written below…

<http://zoology.okstate.edu/zoo_lrc/biol1114/tutorials/Flash/Osmosis_Animation.htm>

**Question 6 :** “ What is happening to the water (blue) and the dissolved substances (green and red). What is the same? What is different?

**Osmosis Animation 2**

Use the following website to learn what happens to cells in various solutions.

[**http://www.nclark.net/osmosisPocus.gif**](http://www.nclark.net/osmosisPocus.gif)

**Question 7.**

What happened to the cell in the hypertonic solution? (explain which way the water moved and what happened to the cell)

What does hypertonic mean?

What happened to the cell in the isotonic solution? (explain which way the water moved and what happened to the cell)

What does isotonic mean?

What happened to the cell in the hypotonic solution? (explain which way the water moved and what happened to the cell)

What does hypotonic mean?

**Question 8.** After performing the experiment, is there a greater concentration of particles INSIDE or OUTSIDE the cell?

**Osmosis & Membrane – Notice that the top of the animation, labeled CYTOPLASM, is the inside of the cell.**

[http://student.ccbcmd.edu/~gkaiser/biotutorials/eustruct/hypotonicanim.html](http://student.ccbcmd.edu/%7Egkaiser/biotutorials/eustruct/hypotonicanim.html) **Question 9.** What are the holes in the membrane called?

**Question 10.** At the beginning of the animation, are there more “Free Water Molecules” inside or outside the cell?

**Question 11.** Which way do the “Free Water Molecules” move? Into or out-of the cell?

**Question 12.** Why do the “Free Water Molecules” move in this direction?